

**OPINIONS AND DECLARATIONS
RENDERED BY THE INTER-
NATIONAL COMMISSION ON
ZOOLOGICAL NOMENCLATURE**

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

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OPINION 418

Validation under the Plenary Powers of the generic
name *Stentor* Oken, 1815 (Class Ciliophora)



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OPINION 418

VALIDATION UNDER THE PLENARY POWERS OF THE GENERIC NAME "STENTOR" OKEN, 1815, (CLASS CILIOPHORA)

RULING :—(1) The following action is hereby taken under the Plenary Powers :—

- (a) The under-mentioned generic names are hereby suppressed :—
- (i) for the purposes of the Law of Priority but not for those of the Law of Homonymy :—
 - (α) *Eclissa* Modeer, 1790 ;
 - (β) *Ecclissa* Schrank, 1803 ;
 - (γ) *Linza* Schrank, 1802 ;
 - (ii) for the purposes both of the Law of Priority and of the Law of Homonymy : *Stentor* Geoffroy Saint-Hilaire, 1812 ;
- (b) The under-mentioned generic name is hereby validated : *Stentor* Oken, 1815 (a name published in a work rejected for nomenclatorial purposes) ;
- (c) The under-mentioned specific names are hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy :—
- (i) *stentoria* Linnaeus, 1758, as published in the combination *Hydra stentoria* ;
 - (ii) *stentorea* Linnaeus, 1767, as published in the combination *Hydra stentorea* (an emenda-

tion of *stentoria* Linnaeus, 1758, as published in the combination *Hydra stentoria* ;

- (d) It is hereby directed that the nominal species *Stentor muelleri* Ehrenberg, [1832], be interpreted by reference to the description and figures published therefor by Ehrenberg in 1838 (*Die Infusionsth.* : 262) ;
- (e) All type selections for the genus *Stentor* Oken, 1815, made prior to the present Ruling are hereby set aside and the nominal species *Stentor muelleri* Ehrenberg, [1832], as defined under (d) above, is hereby designated to be the type species of the foregoing genus.

(2) The under-mentioned generic name is hereby placed on the *Official List of Generic Names in Zoology* with the Name No. 998 : *Stentor* Oken, 1815, as validated under the Plenary Powers under (1)(b) above (gender : masculine) (type species, by designation under the Plenary Powers under (1)(e) above : *Stentor muelleri* Ehrenberg, [1832], as defined under the Plenary Powers under (1)(d) above).

(3) The under-mentioned generic names are hereby placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* with the Name Numbers severally specified below :—

- (a) The three generic names specified in (1)(a)(i) above, as there suppressed under the Plenary Powers (Name Nos. 440 to 442 respectively) ;
- (b) *Stentor* Geoffroy Saint-Hilaire, 1812, as suppressed under the Plenary Powers under (1)(a)(ii) above (Name No. 443) ;
- (c) *Tubaria* Thienemann, 1828 (a junior objective synonym of *Stentor* Oken, 1815) (Name No. 444) ;

(d) *Stentorella* Reichenbach, 1828 (a junior objective synonym of *Stentor* Oken, 1815) (Name No. 445) ;

(4) The under-mentioned specific name is hereby placed on the *Official List of Specific Names in Zoology* with the Name No. 733 : *muelleri* Ehrenberg, [1832], as published in the combination *Stentor muelleri* and as interpreted under the Plenary Powers under (1)(d) above (specific name of type species of *Stentor* Oken, 1815).

(5) The under-mentioned specific names are hereby placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* with the Name Numbers severally specified below :—

(a) The two specific names specified in (1)(c) above, as there suppressed under the Plenary Powers (Name Numbers 312 and 313 respectively) ;

(b) *solitarius* Oken, 1815, as published in the combination *Stentor solitarius* (a name published in a work rejected for nomenclatorial purposes) (Name No. 314).

I.—THE STATEMENT OF THE CASE

The question of the possible use of the Commission's Plenary Powers for the purpose of validating the generic name *Stentor* Oken, 1815 (Class Ciliophora)¹, the problem with which the

¹ For the decision by the Commission rejecting Oken's *Lehrbuch der Naturgeschichte* see *Opinion* 417 (published in the immediately preceding Part of the present Volume).

present *Opinion* is concerned, first formed the subject of correspondence between the Secretary and the late Professor Harold Kirby (*University of California, Berkeley, California, U.S.A.*) in the summer of 1945. Professor Kirby then intimated that in view of the complexity of the early literature some time would need to elapse before he was in a position to submit to the Commission an analysis of the history of this case. It was agreed in later correspondence between Mr. Hemming and Professor Kirby that the issues involved in the present case should be laid before the Commission simultaneously in two documents, namely: (1) a paper by Professor Kirby dealing with the historical and taxonomic aspects of this case and indicating in general terms the nature of the solution which he desired the Commission to adopt; (2) a brief Report by the Secretary setting out the detailed action which it would be necessary for the Commission to take if it were to approve the solution advocated by Professor Kirby. The paper prepared under this arrangement by Professor Kirby, which was received in the Office of the Commission on 20th April 1950, was as follows:—

**On the need for validating the name “*Stentor*” Oken, 1815
(Class *Ciliophora*) for use in its accustomed sense**

By HAROLD KIRBY

(*University of California, Berkeley, California, U.S.A.*)

Several species of well-known ciliates have for more than a century usually been placed in the genus *Stentor*, and because of the particular value of these ciliates for research and in class instruction, as well as the frequency with which they come to the attention of microscopists, there is a large literature under the name *Stentor*. The name has not yet been placed in the *Official List of Generic Names in Zoology*. Examination of the nomenclatural status of the genus has shown that several points of confusion, hitherto usually ignored, must be cleared up. The name for the genus and its type species should be decisively established as soon as possible by appropriate action by the International Commission on Zoological Nomenclature.

2. The first record of observation of ciliates now included in *Stentor* was read by Abraham Trembley to the Royal Society of London in 1744 and was published in 1745 in the *Philosophical Transactions*, 43 : 180 ff. He reported having seen in fresh water animalcula which De Réaumur judged to belong to the general class of Polypi. Part of the

paper is devoted to an account of clustering Polypi, which Trembley stated were named by De Réaumur "les Polypes en bouquet"; these were colonial vorticellids, probably *Zoothamnium*. Trembley also wrote of small Polypi of a different sort from those that are found in clusters, which De Réaumur thought proper to distinguish by the name of Tunnel-like Polypi. He gave a sufficiently informative account of these animalcula and their manner of division so that it is evident that he dealt with *Stentor*. He reported being acquainted with three species of these Polypi, which are respectively green, blue, and white.

3. In *Employment for the Microscope* (1753, pp. 330—334) Henry Baker wrote of Funnel-Animals which he found attached to a parcel of snail's eggs, and he quoted Trembley's account, stating in a footnote that he was pleased to find that de Réaumur and Trembley had ideas of the creature so nearly like his own. He gave a figure (pl. 13, fig. 1) which evidently depicts a species of the genus known later as *Stentor*, though he supplied no sufficient information by means of which one could identify it with *St. polymorphus*, as did Ehrenberg (1838, *Infusionsth.* : 263).

4. Figures of an organism of this group were published in 1775 by Rosel von Rosenhof (*Insectenbelust.*, 3 : pl. 94, figs. 7, 8) who discussed it in the text (:585) under the name "der schallemeynähnliche Affterpolyp". The figures represent one of the colorless species, which Ehrenberg (1838, *Infusionsth.* : 262) considered to be the one that he later named *St. muelleri*; but the species represented by Rösel cannot actually be identified.

5. The first scientific name given to a ciliate that now belongs to the genus *Stentor* was *Hydra stentoria* Linnaeus (1758, *Syst. Nat.* (ed. 10) 1 : 817). The name was applied to the representation of the organism by Rösel. Under the name, Linnaeus referred to four of Rösel's figures (*Insectenbel.*, 3 : pl. 94, figs. 5, 6, 7, 8). Figures 5 and 6 depict a rotifer; Ehrenberg (1838, *Infusionsth.* : 404) included a reference to them in the synonymy of *Lacinularis socialis*. Thus the name given by Linnaeus in 1758 was applied both to a rotifer and the ciliate.

6. Linnaeus later (1767, *Syst. Nat.* (ed. 12) 1 : 1321) published an emendation of the specific name as *stentorea*, and under *H. stentorea* referred to an extended list of references: the accounts by Trembley and Baker and the latter's figure which I have mentioned; Rösel's figs. 7 and 8 (not 5 and 6); references by Ledermüller and by Pallas. Linnaeus (1767) referred to Rosel's figures 5 and 6 under *Hydra socialis*. He had evidently restricted his concept of *H. stentorea* so far as the original reference of 1758 was concerned, to Rösel's figures that actually represented the ciliate. Pallas (1766) used the name

Brachionus stentoreus, with varieties *alba*, *viridis*, and *caeruleus*; he removed the stentorid of Linnaeus to that genus, along with some rotifers and vorticellids.

7. O. F. Müller, recognising that the ciliate dealt with by Linnaeus could not be put in the genera *Hydra* or *Brachionus*, included it in *Vorticella*. Under *Vorticella stentorea* (1773, *Verm. terrest. fluviat.* : 111), he quoted the description of *Hydra stentorea* by Linnaeus. In the genus he also treated of several species that were in Linnaeus's genus *Vorticella*, together with a heterogeneous assemblage of ciliates and some rotifers. In this work Müller dealt with two other stentorid ciliates, which he named *Vorticella nigra* (*op. cit.* : 96) and *V. polymorpha* (*op. cit.* : 98). Later (1786, *Animalc. Inf.* : 262) he described a third species, *Vorticella multiformis*. A peritrich dealt with in the latter work is *Vorticella versatilis* (*op. cit.* : 281, pl. 39, figs. 14—17). In that peritrich, individuals occur abundantly in the periphery of large, gelatinous masses.

8. *Vorticella stentorea* was included in the genus *Linza* Schrank, 1802, by Schrank (1802, 1803). This genus contained the colonial peritrich, then widely known as *Ulva pruniformis*, which was Müller's *Vorticella versatilis*, and of which the currently used name is *Ophrydium versatile*; Müller's *Vorticella flosculosa* (1786, *Animalc. Inf.* : 304, pl. 43, figs. 16—20), which is the colonial rotifer known later as *Lacinularia socialis*: and Müller's *Vorticella socialis* (*op. cit.* : 304, pl. 43, figs. 13—15), which is in part also *Lacinularia socialis*. Schrank's genus *Linza* was a complex of a peritrich, a rotifer, and a stentorid ciliate. Neave (*Nomenclator Zoologicus*) lists *Linza* as in Rotifera.

9. The stentorids that had been named by Müller (1786) *Vorticella nigra* and *V. polymorpha* were placed by Schrank (1803) in the genus *Ecclissa*, as *E. nigra* and *E. viridis*, along with various species of Müller's *Vorticella*.

10. Bütschli (1899 in Bronn, *Klass. Ord. Thierreiches*, 1 : 1728) listed *Ecclissa* and *Linza* spp. Schrank in the synonymy of *Stentor*. Stein (1876), *Organ. In. fusionsth.* : 221) had written of the injustice of the neglect suffered by Schrank's names, but recognised the futility of attempting to revive one or the other of them for the stentorid ciliates. The history of those names is complicated and obscure, and they have never come into use. To complicate the matter still further I find that Lamouroux *et. al.* (1824, *Hist. nat. Zooph.*, 2 : 291) refer to the genus *Ecclissa* established by Ocken [*sic*] for vorticellids, and to *Linze*, a genus established by Guettard in sponges. Also there is *Ecclissa* Modeer (*A.*), 1790, emended in Agassiz (1842—46, *Nomenclator Zoologicus*) to *Ecclissa* Modeer, in Vorticellina.

11. These names are associated with the older history of the nomenclature of stentorid ciliates, and so have been discussed, but they

are not necessarily important in relation to the present problem. The type of *Linza* Schrank may be considered to be *Vorticella flosculosa* Müller, which is the rotifer *Lacinularia socialis*; and that of *Ecclissa* Schrank may be considered to be one of the peritrichs he included in it. Thus these problems are removed to other groups than that which now concerns us, though it would be well if the Commission used its Plenary Powers to suppress the names *Linza* Schrank and *Ecclissa* Schrank, as well as *Ecclissa* Modeer.

12. Oken (1815, *Lehrb. Naturgesch.*, Thiel 3, Abt. 1 : 45) applied the name *Stentor* to the same group of organisms as that in Schrank's genus *Linza*, though he did not refer to that fact. In the genus he gave three species: *St. solitarius* Oken, 1815 (*Vorticella stentorea* renamed); *St. socialis*, which was the rotifer *Lacinularia socialis*; and *St. pruniformis* otherwise known as *Ulva pruniformis* or *Linza pruniformis* (*Ophrydium versatile*). Oken (1815) also listed the genus *Ecclissa*, with *E. nigra* (*Vorticella nigra*) and *E. viridis* (*Vorticella viridis*) as the species. Oken had distributed the species within the group we now know as *Stentor* into two genera, *Ecclissa* in his listing containing only members of that group, *Stentor* containing a heterogeneous assemblage of organisms, one of which belonged to the group in which we are presently interested.

13. The name *Stentor* Oken, 1815, was preoccupied. Geoffroy Saint-Hilaire (1812, *Ann. Mus. Nat. Hist.* 19 : 107) had proposed the name *Stentor* for a genus of South American monkeys, listing six species. For that group of howling monkeys, however, two generic names had already been supplied. *Stentor* Geoffroy Saint-Hilaire, 1812, is antedated by *Alouatta* Lacépède, 1799, and by *Mycetes* Illiger, 1811 (Palmer, 1904, *Index generum mammalium, North Am. Fauna*, No. 23). Consequently, *Stentor* has never been in use among mammalogists, and is often neglected even as a synonym.

14. A comparable case is that of *Necator* Stiles, 1903, which was dealt with by the International Commission on Zoological Nomenclature at the 7th Meeting in Paris, July, 1948 (*Off. Record Proceedings* : 301—302)². It was found by Mr. Hemming that the above generic name is a junior homonym of *Necator* Sclater and Saunders, 1896, an emendation of *Nicator*, Finsch and Hartlaub, 1870, a genus in the Class Aves. *Necator* has not been in use by ornithologists, *Nicator* having always been the name by which the genus is known. At this meeting, the Commission used its Plenary Powers to suppress *Necator* Sclater and Saunders, 1896, and to validate the generic name *Necator* Stiles, 1903.

² See *Opinion* 201 (1954, *Ops. Decls. int. Comm. zool. Nomencl.* 3 : 267—274).

15. Another aspect of this problem is its relation to a matter that came to the attention of the International Commission on Zoological Nomenclature at its 13th Meeting in Paris, July 1948 (*Off. Record Proceedings* : 365—366). It concerned a proposal that had been made by Stiles for addition to the *Official List of Generic Names* of three genera of Carnivora first published by Oken (1815—16) in his *Lehrbuch der Naturgeschichte*, and an application by Osgood for a ruling on the question of availability of names first published in Oken's *Lehrbuch*. The Commission agreed to take into consideration as soon as possible the question of a ruling on the availability of Oken's names, and to defer a decision on the application by Stiles for addition of three of Oken's genera of Carnivora to the *Official List* until there had been a decision on the availability of those names.

16. Since *Stentor* Oken, 1815, is a name also published in the *Lehrbuch* in question, its placement in the *Official List of Generic Names* is subject to the same consideration.

17. Several other names have been proposed for the ciliates of this generic group. Bory (1824, Lamouroux, Bory de Saint-Vincent, et Eud. Deslongchamps, *Enc. méth., Hist. nat. Zooph.*, 2 : 533, 697) gave the name *Stentorina* to a genus which included the stentorids which Müller had grouped in *Vorticella* : *V. polymorpha*, *V. nigra*, and *V. multiformis*. This was the first bringing together of these species into a single independent genus. Bory's concept of their relationship was obviously far superior to that of Oken. Bory did, however, carry on an error that others had made before him, in giving the names *Stentorina roëselii* and *S. biloba* to a rotifer, the one later known as *Lacinularia socialis*.

18. The generic name *Tubaria* was proposed by Thienemann (1828, *Lehrbuch Zool.* : 12), since the name *Stentor* had been used for a genus of apes by Geoffroy. He gave the species name *T. viridis*, which, according to Ehrenberg (1838) is *Stentor polymorphus*. I have not been able to refer to Thienemann's book, but the name has no significance for the present nomenclatural problem.

19. Reichenbach (1828, *Zoologie in Allg. Taschenb. Naturw.*, Th. 5, 1 : 95) substituted the name *Stentorella* for *Stentor* Ok. non Geoffr. He did not refer to any species. This name was neglected for more than a century, not even being included in nomenclatorial indices (Agassiz, 1842—46 ; Sherborn, 1902). Recently Bhatia (1936, *Fauna Br. Ind., Prot : Ciliophora* : 234) noted pre-occupation of *Stentor* for a genus of Mammalia and adopted instead *Stentorella* Reichenbach. Bhatia neglected the prior claim of *Stentorina*, if substitution is to be made, and his proposal to use *Stentorella* is invalid.

20. Another problem exists in regard to identification of the type species of *Stentor* Oken, 1815. When proposed, it contained only the

one heterotrich *St. solitarius* Oken, 1815, along with the peritrich and rotifer. *St. solitarius* is a name supplied as equivalent to *Vorticella stentorea* Müller, 1773, so stated by Oken. It is also equivalent to *Hydra stentoria* Linnaeus, 1758. The trail of references occurring in the different authors' works goes back to Linnaeus. But the same or equivalent names were not necessarily applied to the same organisms, and species identification of the ciliates as named and described by these authors is not possible.

21. Ehrenberg (1832, *Abh. Akad. Wiss. Berlin* 1831 : 99) substituted the name *Stentor muelleri* E. for *Vorticella stentorea* Müller. A recognisable figure of *Stentor muelleri* was published by Ehrenberg (1837, *op. cit.* 1835 : pl. 1, fig. 16). A full, illustrated account of the species was provided by Ehrenberg (1838, *Infusionsth.* : 262). In that work Ehrenberg listed *Stentorina muelleri* Bory de Saint-Vincent, 1824 in the synonymy of *Stentor muelleri*. I have been unable to find that Bory used that name, though he did give *Stentorina stentorea* for Müller's *Vorticella stentorea*, a fact that Ehrenberg did not refer to in the synonymy in discussion.

22. Ehrenberg (1832, *op. cit.* : 99) stated that *Stentor muelleri* was *Vorticella stentorea* Müller, and in 1838 he listed *St. solitarius* Oken in the synonymy of *St. muelleri*. *St. solitarius* is the type, being the only ciliate in Oken's genus *Stentor* at the time it was proposed. Prior to Ehrenberg's accounts of 1832, 1837, and especially 1838 it is impossible to tell what species of colourless stentorids are referred to by the names that were given. The description of *Stentor muelleri* by Ehrenberg can, as Mr. Hemming suggested, be designated by the Commission as that to be accepted for the nominal type species of *Stentor* Oken, 1815. Since 1830 the specific names of this nominal species, *solitarium* Oken or the older *stentoria* or *stentorea*, have not been in use. It would be undesirable to revive them. The Commission should consider suppressing those specific names and designating the type species of *Stentor* as *St. muelleri* Ehrenberg, [1832] (*Abh, König Ak. Wiss. Berlin* 1831 : 99).

23. There is not complete agreement about the taxonomic status of *Stentor muelleri*. Stein (1867, *Org. Infusionsth. Abt.* 2 : 223, 229) maintained that *St. muelleri* is not more than a colourless form of *St. polymorphus* (i.e., without zoochlorellæ), and placed (: 247) *Hydra stentorea* L., 1758 ; *Vorticella stentorea* Müller, 1773 ; *Stentor solitarius* Oken, 1815 ; and *Stentorina stentorea* Bory, 1824 in the synonymy of *Stentor roëselii* Ehrbg. This species like *St. muelleri* is colourless and may occur in a gelatinous lorica. *Stentor muelleri* is recognised, however, in recent literature in protozoology.

24. In his list of proposed *Nomina Conservanda* Apstein (1915, *Sitzungsber. Gesell. Naturf. Freunde Berlin* 1915 : 123) included *Stentor* Oken, 1815, and gave as the representative species ("eine art gennant, für welche die Gattung erhalten bleiben soll") *polymorphus*

Müll., 1773. However, under Article 30, that species is excluded as the type species of *Stentor*, since it was not included under the generic name at the time of publication.

25. The International Commission on Zoological Nomenclature is faced with a problem in considering the placing of the name of this important ciliate genus on the *Official List of Generic Names*. If it is decided that new names in Oken's *Lehrbuch* are available, *Stentor* Oken, 1815, may be preserved by suppression of *Stentor* Geoffroy Saint-Hilaire, 1812. If it is decided that the new names in Oken's *Lehrbuch* are not available, the problem of selecting a name for these ciliates must be considered further. Perhaps *Stentorina* Bory de Saint-Vincent, 1824, could be adopted, with the type species *Vorticella polymorpha* Müller, 1773. A change of so well-known and long used a generic name as *Stentor* should be avoided if possible.

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2. Report submitted by Mr. Francis Hemming, Secretary to the Commission : Upon the receipt of the paper relating to the generic name *Stentor* Oken, 1815, reproduced in the immediately preceding paragraph Mr. Hemming prepared the Report which, as has been explained, it had been agreed between Professor Kirby and himself should be submitted to the Commission simultaneously with Professor Kirby's paper. Mr. Hemming's Report, the terms of which were agreed with Professor Kirby in November 1950, was as follows :—

**Report on the Status of the Generic Name "Stentor" Oken,
1815 (Class Ciliophora, Sub-Class Ciliata)**

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

In correspondence relating to the name *Entamoeba* Casagrandi and Barbagallo, 1895, Professor Harold Kirby (University of California, Berkeley, Cal., U.S.A.) drew my attention to the fact that the name universally applied to the well-known genus of Ciliates known as *Stentor* was invalid and suggested that the problems involved should be studied by the International Commission on Zoological Nomenclature as a preliminary to the name *Stentor* Oken, 1815, being placed on the *Official List of Generic Names in Zoology*. I at once asked Professor Kirby to prepare a statement of the case for consideration by the Commission, and this he kindly undertook to do at the first opportunity. The investigation has proved unexpectedly complicated, for it was found not only that the generic name *Stentor* Oken is invalid, being a junior homonym of the name *Stentor* Geoffroy Saint-Hilaire, 1812 (as was already known), but also that no effective type selection had apparently ever been made for the genus *Stentor* Oken and further that the identity of the only originally included species (*Stentor solitarius* Oken, 1815) that could be regarded as being a member of the genus as at present universally understood was open to doubt. All of these questions are dealt with fully in the paper prepared by Professor Kirby, which is now laid before the Commission for consideration.

(2) In submitting this paper, Professor Kirby deliberately stopped short of formulating concrete proposals for the consideration of the Commission, asking me, as Secretary to the Commission, to undertake this task. This I consented to do and the present Report has accordingly been prepared for the consideration of the Commission. When the present Report was in draft, I submitted it to Professor Kirby, who notified me that he was in agreement with the conclusions and recommendations now submitted.

(3) In approaching the present task, I started with the premise that in the case of a name such as *Stentor* Oken every responsible zoologist would recognise how grave would be the confusion if it were found necessary to reject that name for purely technical nomenclatorial reasons and would strongly support the use by the Commission of its Plenary Powers to prevent so disastrous a result. In the following paragraphs I deal briefly with each of the three problems which, as Professor Kirby explained, arise in the present case.

(4) **On the measures necessary to provide availability for the generic name "Stentor" Oken, 1815 :** The first step necessary in any plan to preserve the current use of the generic name *Stentor* would be the suppression, under the Plenary Powers, of the older generic name *Stentor* Geoffroy Saint-Hilaire, 1812 ; no possible objection could be raised to this course, since, as Professor Kirby pointed out, the name *Stentor* Geoffroy Saint-Hilaire is a name that was applied to a genus of monkeys which has at least two older available names. Once Geoffroy Saint-Hilaire's *Stentor* had been removed from the field in this way, the name *Stentor* Oken, 1815, would cease to be invalid, as the junior homonym of another generic name. The next question to be considered is whether Oken, in his *Lehrbuch der Naturgeschichte*,³ consistently applied the principles of binominal nomenclature (as required by Proviso (b) to Article 25) and therefore whether the name *Stentor* Oken is an available name. On this general subject I have submitted a Report (Z.N.(S.) 153) to the Commission in accordance with a request addressed to me by it at its Paris Session, in which I reach the conclusion that Oken did not in the *Lehrbuch*, satisfy the provision cited above and therefore that new names in the *Lehrbuch* did not acquire any rights under the Law of Priority. At the same time I have drawn attention to the fact that, if the Commission accept the conclusion reached in my Report, the names in the *Lehrbuch* will fall to be dealt with under the special procedure laid down by the Thirteenth International Congress of Zoology for the purpose of validating with the utmost despatch generic names of importance that might in such cases be found to be invalid (1950, *Bull. zool. Nomencl.* 4 : 63—66). Clearly the name *Stentor* Oken, 1815, would come under this heading and I accordingly recommend that, simultaneously with the adoption of my Report on the status of Oken's *Lehrbuch*, the name *Stentor* Oken should be validated under the Plenary Powers.

(5) **Certain old generic names associated with the "Stentor" problem :** Professor Kirby pointed out that the name *Linza* Schrank, 1802, a name which has never been used, is a potential danger to the name *Stentor* Oken, since no type species has ever been selected for Schrank's genus and some of the species originally included in it are stentorids. I fully support, therefore, the conclusion reached by Professor Kirby that this name should now be suppressed under the

³ See Footnote 1.

Plenary Powers and thus rendered incapable of causing confusion in the literature. Similarly, I support Professor Kirby's conclusion that the long-forgotten name *Eclissa* Modeer, 1790, and its variant *Ecclissa* Schrank, 1802, should be suppressed under the Plenary Powers.

(6) **On the type species of the genus "Stentor" Oken, 1815:** As already noted in the present Report, no nominal species appears ever to have been validly selected to be the type species of the genus *Stentor* Oken, 1815; the selection of a type species is naturally an indispensable preliminary to the definition of the genus. Professor Kirby pointed out that *Stentor solitarius* Oken, 1815, is the only originally included species, the selection of which as the type species could secure the continued use of the name *Stentor* in its accustomed sense, but that there are substantial reasons which would render the selection of this species as the type species open to strong objection. In the first place, it must be noted that the name *Stentor solitarius* Oken was not based upon a description by Oken of a new species, but was published as a *nom. nov. pro* the species referred to by Müller (O.F.) (1773) as *Vorticella stentorea*. Next, we have to note that Müller never published this name as a new name; what he did was to place in the genus *Vorticella* the species which Linnaeus in 1758 had named *Hydra stentoria* (a name which in 1767 Linnaeus himself emended to *stentorea*). Thus, the identity of Oken's *Stentor solitarius* turns entirely upon the identity of the species *Hydra stentoria* Linnaeus. Professor Kirby examined the taxonomic questions involved and reached the conclusion that, prior to Ehrenberg's work, and, in particular, his *Die Infusionsthierchen* of 1838, it is impossible to identify with certainty to what species should be applied to names published for colourless stentorids. It was to overcome these difficulties that (as explained in Professor Kirby's paper) I suggested (*in litt.*) that the best course would be for the Commission to use its Plenary Powers to secure that Ehrenberg's figure for *Stentor muelleri* Ehrenberg, [1832], should be taken to define the nominal species, to be designated as the type species of *Stentor* Oken. The advantage of this course lies in the fact that Ehrenberg's name *Stentor muelleri* is a substitute name for Müller's *Vorticella stentoria*, which (as already explained) is objectively identical with Oken's *Stentor solitarius*. This suggestion commended itself to Professor Kirby and is included in the proposal submitted at the close of the present Report. It is naturally an essential part of that plan that the specific name *muelleri* Ehrenberg should be preserved for the species to which it is always applied. Accordingly it is proposed not only that the specific name *stentoria* Linnaeus, 1758 (and its emendation *stentorea* Linnaeus, 1767), both being specific names for species which cannot be certainly identified, should be suppressed under the Plenary Powers, but also that the specific name *solitarius* Oken should be suppressed for similar reasons. The suppression of *nomina dubia*, when their clarification might give rise to confusion, is clearly the best means of promoting stability in nomenclature and of avoiding confusion. If these names are disposed of in this way, it will be

necessary to designate some other nominal species to be the type species of the genus *Stentor* Oken. Clearly, the most appropriate choice would be the nominal species *Stentor muelleri* Ehrenberg, [1832], as defined by the description and figures published by that author in 1838.

(7) The settlement of the *Stentor* problem on the foregoing lines would provide valid force for the current use of that name, without causing the slightest inconvenience or difficulty in any other field. I accordingly recommend the foregoing solution to the favourable consideration of the Commission. The detailed action recommended is that the International Commission on Zoological Nomenclature should :—

(1) use its Plenary Powers :—

(a) to suppress for the purposes of the Law of Priority but not of the Law of Homonymy the under-mentioned generic names :—

- (i) *Eclissa* Modeer, 1790 ;
- (ii) *Ecclissa* Schrank, 1802 ;
- (iii) *Linza* Schrank, 1802 ;

(b) to suppress for the purposes both of the Law of Priority and of the Law of Homonymy the generic name *Stentor* Geoffroy Saint-Hilaire, 1812 ;

(c) to validate the generic name *Stentor* Oken, 1815 (in the event of Oken's *Lehrbuch der Naturgeschichte* being declared unavailable for nomenclatorial purposes)⁴;

(d) to suppress the under-mentioned specific names for the purposes of the Law of Priority :—

- (i) *stentoria* Linnaeus, 1758, as published in the combination *Hydra stentoria* ;
- (ii) *stentorea* (emend. of *stentoria*) Linnaeus, 1767, as published in the combination *Hydra stentorea* ;
- (iii) *solitarius* Oken, 1815, as published in the combination *Stentor solitarius* ;

(e) to direct that the name *Stentor muelleri* Ehrenberg, [1832], is to be interpreted by reference to the description and figures published therefore by Ehrenberg in 1838 (*Die Infusionsth.* : 262) ;

(f) to designate *Stentor muelleri* Ehrenberg, [1832], as defined in (e) above, to be the type species of *Stentor* Oken, 1815 ;

⁴ See Footnote 1.

- (2) to place the name *Stentor* Oken, 1815 (type species, by designation under the Plenary Powers under (1)(f) above : *Stentor muelleri* Ehrenberg, [1832], as defined under the Plenary Powers under (e) above) on the *Official List of Generic Names in Zoology* ;
- (3) to place on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—
- (a) the three generic names proposed under (1)(a) above to be suppressed under the Plenary Powers ;
- (b) the name *Stentor* Geoffroy Saint-Hilaire, 1812, proposed under (1)(b) above to be suppressed under the Plenary Powers ;
- (c) the under-mentioned generic names which are junior objective synonyms of *Stentor* Oken, 1815 :
- (i) *Tubaria* Thienemann, 1828 ;
- (ii) *Stentorella* Reichenbach, 1828 ;
- (4) to place the specific name *muelleri* Ehrenberg, [1832], as published in the combination *Stentor muelleri*, as defined under the Plenary Powers under (1)(e) above, on the *Official List of Specific Names in Zoology* ;
- (5) to place on the *Official Index of Rejected and Invalid Specific Names in Zoology* the three specific names specified in (1)(d) above, as there proposed to be suppressed under the Plenary Powers.

II.—THE SUBSEQUENT HISTORY OF THE CASE

3. Registration of the present application : At the time when in 1945 Professor Kirby first brought forward the question of the name *Stentor* Oken, the problems involved were allotted the Registered Number Z.N.(S.) 261.

4. Publication of the present application : In view of the fact that the present application was concerned with a generic name published in Oken's *Lehrbuch der Naturgeschichte* it was considered that it would be to the convenience of the Commission if the submission of the present case to it were to be deferred until it was possible also to submit proposals for determining the availability of names published in Oken's *Lehrbuch*. Hence it was that the documents relating to the present case were not published in the *Bulletin of Zoological Nomenclature* until 11th May 1954 (Kirby, 1954, *Bull. zool. Nomencl.* **9** : 208—214 ; Hemming, 1954, *ibid.* **9** : 214—218).

5. Issue of Public Notices : Under the revised procedure prescribed by the Thirteenth International Congress of Zoology, Paris, 1948 (1950, *Bull. zool. Nomencl.* **4** : 51—56) Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 11th May 1954 (a) in Part 7 of Volume 9 of the *Bulletin of Zoological Nomenclature* (the Part in which Professor Kirby's and Mr. Hemming's papers were published) and (b) to the other prescribed serial publications. In addition, such Notice was given also to a number of general zoological serial publications and to certain specialist serials in Europe and America.

6. No objection received during the Prescribed Waiting Period : No objection to the action proposed was received in the Office of the Commission during the Prescribed Waiting Period of six months following the publication of this application in the *Bulletin of Zoological Nomenclature*. Shortly after the close of the foregoing period and subsequent also to the preparation of the Voting Paper to be submitted to the Commission in this case (paragraph 8 below), an objection was received from one American zoologist. The communication so received is reproduced in the immediately following paragraph.

7. Objection received from Professor E. Raymond Hall (University of Kansas, Lawrence, Kansas, U.S.A.) subsequent to the close of the

Prescribed Waiting Period : On 23rd November 1954 a letter, dated 18th November 1954, was received in the Office of the Commission from Professor E. Raymond Hall (*University of Kansas, Lawrence, Kansas, U.S.A.*) intimating a general objection to the validation of any of the names introduced for genera of mammals by Oken in his *Lehrbuch* and in addition a particular objection to the validation of the name *Stentor* in ciliates. The portion of Professor Hall's letter relating to the first of these questions has been reproduced in *Opinion* 417 dealing with the general question of the status to be accorded to generic names as published in Oken's *Lehrbuch*. The following is the portion of Professor Hall's letter relating to the name *Stentor* Oken :—

Concerning the name *Stentor* of Oken as applied to non-vertebrate animals [Commission Reference Z.N.(S.) 261], certain considerations additional to those that pertain to Oken's names for mammals need to be taken into account but, even so, when all angles are considered, including convenience to teachers of zoology, of which I am one, my view is that *Stentor* Oken should not be made available and that the next available name should be used.

III.—THE DECISION TAKEN BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

8. Issue of Voting Paper V.P.(54)92 : On 26th November 1954, a Voting Paper (V.P.(54)92) was issued in which the Members of the Commission were invited to vote either for, or against, "the proposal relating to the generic name *Stentor* Oken, 1815 (Class Ciliophora) as set out in Points (1) to (5) in paragraph (7) on page 217 and continued on page 218 of volume 9 of the *Bulletin of Zoological Nomenclature*" [i.e. in the Points numbered as above in paragraph (7) of the Report by Mr. Hemming reproduced in paragraph 2 of the present *Opinion*].

9. The Prescribed Voting Period : As the foregoing Voting Paper was issued under the Three-Month Rule, the Prescribed Voting Period closed on 26th February 1955.

10. Particulars of the Voting on Voting Paper V.P.(54)92 : At the close of the Prescribed Voting Period, the state of the voting on Voting Paper V.P.(54)92 was as follows :—

(a) *Affirmative Votes had been given by the following twenty (20) Commissioners (arranged in the order in which Votes were received) :*

Holthuis ; Hering ; Lemche ; Stoll ; Bradley (J.C.) ;
Vokes ; Esaki ; Bodenheimer ; Dymond ; Bonnet ;
Jaczewski ; Hankó ; Boschma ; Miller ; Key ; Riley ;
do Amaral ; Hemming ; Kühnelt ; Sylvester-Bradley ;

(b) *Negative Votes, one (1) :*

Cabrera ;

(c) *On Leave of Absence, two (2) :*

Mertens ; Prantl ;

(d) *Voting Papers not returned :*

None.

11. Declaration of Result of Vote : On 27th February 1955, Mr. Hemming, Secretary to the International Commission,

acting as Returning Officer for the Vote taken on Voting Paper V.P.(54)92, signed a Certificate that the Votes cast were as set out in paragraph 10 above and declaring that the proposal submitted in the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

12. Clarification of two drafting points involved in the present case : On 26th October 1955 Mr. Hemming, as Secretary, placed the following Minute on Commission File Z.N.(S.) 261, clarifying the position as regards two drafting points on which decisions were required as a preliminary to the preparation of the Ruling to be included in the *Opinion* embodying the decision taken by the Commission in the present case :—

Two drafting points involved in the preparation of the Ruling to be included in the “Opinion” embodying the decision of the Commission in relation to the name “Stentor” Oken, 1815 (Voting Paper V.P.(54)92)

MINUTE by FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

Two drafting points call for decision in connection with the preparation of the Ruling to be included in the *Opinion* embodying the decision taken by the International Commission in its vote on Voting Paper V.P.(54)92 in relation to the generic name *Stentor* Oken, 1815. The points concerned are set out below.

2. First, the application submitted in this case was prepared at a time when the status of names published in Oken's *Lehrbuch der Naturgeschichte* was still a matter of doubt. Accordingly, in order to make sure that the solution sought in this case should not be frustrated by the fact that the specific name *solitarius* Oken, 1815, as published in the combination *Stentor solitarius*, possessed the status of availability, if under a general decision relating to the status of names published in the foregoing work that name were later found to be an available name, a proposal for the suppression of this name under the Plenary Powers was included in the application submitted (Recommendation (1)(d)(iii) in paragraph (7) of my Report). By its vote on

Voting Paper V.P.(54)91, the Voting Paper immediately preceding that on which the Commission voted in the present case, the Commission has now ruled that names published in Oken's *Lehrbuch* did not acquire thereby the status of availability under the *Règles*. Accordingly, the name *solitarius* Oken, 1815, as published in the combination *Stentor solitarius*, is now seen to be invalid without the intervention of the Commission's Plenary Powers.

3. The second point which calls for consideration is in relation to the determination of the species to be accepted as the type species of the genus *Stentor* Oken, 1815. In this case, it will be recalled, the solution recommended by Professor Kirby was that the Commission should use its Plenary Powers to designate as the type species of this genus a nominal species (*Stentor muelleri* Ehrenberg, [1832]) which, having been established long after the introduction of the nominal genus *Stentor* Oken, 1815, could not possibly be the type species of that genus without the use of the Commission's Plenary Powers. A proposal that the Plenary Powers should be used for the purpose of designating the above species to be the type species of *Stentor* Oken was accordingly included in the proposals submitted (Recommendation (1)(f) in paragraph (7) of my Report). At that time it was believed that no valid type selection had ever been made for the genus *Stentor* Oken and it was accordingly judged unnecessary to include in the recommendation submitted a proposal that any type selection made prior to the Ruling asked for should be set on one side. The use of the Plenary Powers for the purpose of fixing the type species of this genus in the sense recommended by Professor Kirby has now been approved by the Commission in its vote on Voting Paper V.P.(54)92. In a letter dated 7th December 1954 received during the Prescribed Voting Period for the above Voting Paper Commissioner Harold E. Vokes pointed out that "in his statement of the case (*Bull. zool. Nomencl.* 9(7) : 208—214) Kirby clearly, though certainly inadvertently, designated *Stentor solitarius* as the type species of the genus *Stentor* (see p. 212, line 15)".⁵ Reference to the passage cited by Professor Vokes fully supports his contention that Professor Kirby did inadvertently select the above species to be the type species of this genus. That this is so does not, however, affect in any way the decision of the Commission to designate the nominal species *Stentor muelleri* Ehrenberg, [1832], to be the type species of the genus *Stentor* Oken, for, as that decision has been under the Plenary Powers, it automatically serves to set aside any previous type selection which may have been made. I agree, however, with Commissioner Vokes that for the sake of the record it is desirable that the formal position in this matter should be made clear in the Ruling to be given in the *Opinion* embodying the Commission's decision in the present case.

⁵ The type selection sentence here referred to appears in line 3 of paragraph 22 of the paper by Professor Kirby reproduced in the first paragraph of the present *Opinion*.

3. For the reasons set out above, I now, as Secretary to the Commission, hereby direct that in the Ruling to be prepared in this case :—

- (a) the specific name *solitarius* Oken, 1815, as published in the combination *Stentor solitarius*, be treated as a name which is invalid by reason of having been published in a work which has been rejected for nomenclatorial purposes and not as a name suppressed under the Plenary Powers ;
- (b) words be inserted in relation to the designation of *Stentor muelleri* Ehrenberg, [1832], under the Plenary Powers to be the type species of *Stentor* Oken, 1815, to make it clear that this use of the Plenary Powers automatically carries with it a decision under the same Powers to set aside any type selection for the above genus made prior to the Ruling now to be given.

13. Preparation of the Ruling given in the present “ Opinion ” : On 3rd March 1956 Mr. Hemming prepared the Ruling given in the present *Opinion* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those of the proposal approved by the International Commission in its Vote on Voting Paper V.P.(54)92, subject to the clarification of two drafting points in the manner specified in the Minute executed by the Secretary earlier on the same day. The text of the Minute here referred to has been given in paragraph 12 of the present *Opinion*.

14. Original References : The following are the original references for the names placed on *Official Lists* and *Official Indexes* by the Ruling given in the present *Opinion* :—

Ecclissa Schrank, 1803, *Faun. boic.* 3(2) : 21, 101

Eclissa Modeer, 1790, *K. Svensk. Vetensk-Akad. Handl.*, Stockholm 11(4) : 242

Linza Schrank, 1802, *Briefe naturhist. physikalisch. ökonom. Inhaltes an Nau* : 91

muelleri, *Stentor*, Ehrenberg, [1832], *Abk. k. Akad. Wiss. Berlin* 1831 : 99

solitarius, *Stentor*, Oken, 1815, *Lehrbuch Naturgesch.* 3(1) : 45

Stentor Geoffroy Saint-Hilaire (E.), 1812, *Ann. Mus. Hist. nat.*, Paris 19(110) : 107

Stentor Oken, 1815, *Lehrbuch Naturgesch.* 3(1) : 45

stentorea, *Hydra*, Linnaeus, 1767, *Syst. Nat.* (ed. 12) 1(2) : 1321

Stentorella Reichenbach, 1828, *Allg. Taschenb. Naturwiss.* 5, Zool. 1 : 95

stentoria, *Hydra*, Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 817

Tubaria Thienemann, 1828, *Lehrbuch Zool.* : 12

15. Family-Group-Name Position : The family-group-name position was not considered at the time of the submission of the application dealt with in the present *Opinion*, for that application was prepared prior to the establishment of the *Official List of Family-Group Names in Zoology* by the Fourteenth International Congress of Zoology, Copenhagen, 1953. This aspect of the present case is at present being examined on Commission File Z.N.(S.) 1113.

16. At the time of the submission of the present application the name applicable to the second portion of a binomen was "trivial name". This was altered to "specific name" by the Fourteenth International Congress of Zoology, Copenhagen, 1953, which at the same time made corresponding changes in the titles of the *Official List* and *Official Index* of names of this category. These changes in terminology have been incorporated in the Ruling given in the present *Opinion*.

17. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

18. The present *Opinion* shall be known as *Opinion* Four Hundred and Eighteen (418) of the International Commission on Zoological Nomenclature.

DONE in London, this Third day of March, Nineteen Hundred and Fifty-Six.

*Secretary to the International Commission
on Zoological Nomenclature*

FRANCIS HEMMING